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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,579	09/25/2003	Chang Hyuk Lee	CU-3370 RJS	7452
26530	7590	06/24/2005	EXAMINER	
LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604			PHAM, LY D	
			ART UNIT	PAPER NUMBER
			2827	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/670,579	LEE, CHANG HYUK	
	Examiner	Art Unit	
	Ly D. Pham	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 4 is/are rejected.
- 7) ☒ Claim(s) 2 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1. ☒ Certified copies of the priority documents have been received.
- 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (AAPA).

Regarding **claim 1**, AAPA discloses a bit line precharge signal generator (fig. 1A, 140) for a memory device, the memory device having a plurality of bit line sense amplifier arrays (fig. 1A, 100 – 130. Specification page 2, lines 1 – 17), the bit line precharge signal generator comprising:

a control signal generator for generating a first control signal (fig. 1B, first control signal blp—bit line precharge signal. Specification page 2, lines 6 – 21);

a plurality of bit line precharge signal drivers being controlled by the first control signal from the control generator (fig. 1C and Specification page 2 line 22 – page 3, line 17, bit line precharge signal driver includes transistors N3 and N4, which drive the first control signal blp). Note that each of the bit line sense amplifier array 100 – 130 integrate at least one pair of the N3 and N4 for driving the bit line precharge signal blp),

wherein each of the bit line precharge signal drivers applies a second signal (fig. 1C, when N3 and N4 are enabled by blp, control voltage vblp is applied to the bit line

pair BL and /BL. The vblp being the second signal) to the bit line sense amplifier array which is adjacent to the bit line precharge signal driver (as shown in fig. 1C, the bit line precharge driver, N3 & N4, is located adjacent to the amplifier, between sense amplifier above and the second bit line isolation transistors N21 and N22 below).

Regarding **claims 3 and 4**, AAPA also discloses the bit line precharge signal generator according to claim 1, wherein each of the bit line sense amplifier arrays includes a plurality of bit line sense amplifiers (fig. 1C is one example of an sense amplifier array that includes a sense amplifier), and the second signal is applied to each of the plurality of bit line sense amplifiers as necessary (as shown above, second signal vblp is the precharge voltage for the bit lines BL and /BL, and applied to the sense amplifier above it).

Allowable Subject Matter

3. Claims 2 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

The prior arts teach a bit line precharge signal generator according to claim 1, wherein each of the plurality of bit line sense amplifiers includes: an amplifier; a first bit line equalizing transistor...; a first bit line isolation transistors ...; a second bit line

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isolation transistors ...; a second bit line equalizing transistor ...; a bit line precharge transistors.... However, the prior art fail to further teach:

the plurality of bit line precharge signal drivers are arranged alternately with respect to the plurality of bit line sense amplifier arrays.

And


the first and second bit line equalizing transistors and the bit line precharge transistors are driven by the second signal.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
6. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02(b)).
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly D. Pham whose telephone number is 571-272-1793. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoai Ho can be reached on 571-272-1777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ly Pham 
June 15, 2005


HOAI HO
PRIMARY EXAMINER

Continuation of Attachment(s) 6). Other: statement of reasons for the indication of allowable subject matter.